

Statement of Work for Structural Analysis Support for Europa Clipper Propulsion System

Analysis responsibilities shall include timely and effective implementation of task assignments, management of scheduled deliverables, and timely and effective reporting to the government. Contractor personnel will engage and collaborate with other engineers, designers, and analysts to exchange necessary data, develop designs, create/update models, perform engineering analysis, support drawing release, plan any required structural testing as well as support test execution, and supply all required documentation including analysis summaries, analysis/test plans, and reports. The task includes, but is not limited to, the following activities:

- Create/revise finite element models of the propulsion system on all required levels of assembly including system and/or component-level using the appropriate level of model fidelity.
- Support model incorporation as directed between different project entities including propulsion module provider, outside vendors, etc.
- Perform finite element model validity checks to insure quality analysis results per institutional GSFC standards (as generally summarized per the FEMCI website, femci.gsfc.nasa.gov).
- Perform all necessary static and dynamic structural analyses, including margin of safety calculations, using methods including detailed finite element analysis as well as traditional computational techniques (hand calculations).
- Perform timely trade studies on alternative concepts and new design ideas.
- Review structural analyses performed by other project teams, outside vendors, etc. as directed.
- Support the development of mechanical specifications and requirements for procurement of components or additional structural items, if necessary.
- Support component, subsystem and system testing as directed.
- Prepare and deliver all needed documentation including analysis summaries, test plans/reports, etc.
- Support all necessary meetings, technical interchanges, design reviews, etc. as directed.
- Travel to support vendor activities or technical meetings as necessary.